



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,288	01/09/2001	Hans Wilhelm Hafner	KKFI40.001AP	3625

20995 7590 12/11/2003

KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER

SHAPIRO, JEFFERY A

ART UNIT PAPER NUMBER

3653

DATE MAILED: 12/11/2003

*Remailed*

Please find below and/or attached an Office communication concerning this application or proceeding.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,288	01/09/2001	Hans Wilhelm Hafner	KKFI40.001AP	3625

7590

11/13/2003

Knobbe Martens Olson & Bear  
Sixteenth Floor  
620 Newport Center Drive  
Newport Beach, CA 92660-8016

EXAMINER

SHAPIRO, JEFFERY A

ART UNIT PAPER NUMBER

3653

DATE MAILED: 11/13/2003

*Remailed  
12-10-03*

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/554,288

Applicant(s)

HAFNER, HANS WILHELM

Examiner

Jeffrey A. Shapiro

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10 and 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 17.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/5/03 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seidl et al (US 4,244,705) in view of Williams, Jr. et al (US 4,922,932). Seidl discloses the following.

A set of rotary-vane feeders (referred to as rotary gas locks (36-38 and 61-63)) in series relations ship with intermediate containers (11, 21, and 24) or the ducts (39, 41, 42) or ducts (67 and 68). Note that any of these can be construed as intermediate containers. This system is used for a coal furnace.

Seidl does not disclose, but Williams discloses the following.

As described in Claims 10 and 19;

- a. setting a feed rate for the rotary vane feeder (16);
- b. adjusting a discharge rate of the metering device to a value that is lower than the feed rate of the preceding rotary vane feeder, so that return feed from the rotary-vane feeder to the *source* container takes place (see col. 4, lines 50-67 and col. 5, lines 1-67 and col. 6, lines 1-52, noting that the rate of input into feeder duct (14) by conveyor (12) must be at a faster rate than the rotation speed of rotary vane feeder (16), in order to maintain a particular sensed height of the material in the feed duct (14);
- c. *wherein said controlling takes into account a filling state of an intermediate container between the rotary-vane feeder and the metering device so as to maintain the intermediate container at a substantially constant filling height and wherein the metering device comprises a rotor scale;* (See col. 5, lines 17-41, noting that controller (68) controls the speed of rotation of rotary conveyor (16) based on the height sensed by sensor (64), as shown in figure 1. Note that it appears in col. 5, line 37 that the sensor is mislabeled as (654). Also note that in col. 5, line 39, rotary conveyor appears to be mislabeled as (14), which should be (16), as shown in figure 1. Note also that it is well-known in the art to use a rotary scale for sensing rotation speed of a shaft. See, for example,

Japanese patent (JP 09197028A), Koki et al, which describes such a rotor scale. If such a rotary scale device was not used on the rotary vane feeders of Williams, the system of Williams would not be able to control the speed of the rotary vane feeder, as described in Williams' disclosure.)

d. *altering a speed of rotation of the metering device to regulate discharge of the metering device; (See again, col. 5, lines 34-41.)*

As described in Claim 20;

e. said controlling takes into account a filling state of an intermediate container between the rotary-vane feeder and the metering device; (Note again, that the height of material in the feeder duct (14) is sensed.)

As described in Claim 21;

f. altering a speed of rotation of the metering device to regulate discharge of the metering device (again, see col. 5; lines 34-41);

As described in Claim 22;

g. using a pneumatic feed, and altering at least one of an air amount and an air speed to regulate discharge of the metering device; (Note fluid inlet (99) of Williams which removes gas from the hopper (18). Note also that it is not clear whether a pneumatic feed is going into or out of the metering device, and that even if the fluid inlet of Williams is considered a vacuum, it is still pneumatic and moves air at a particular speed.

Note also that Seidl discloses varying air speeds at  $P_B$ , for example. See figure 1 of Seidl.

Both Seidl and Williams are considered to be analogous art because they both concern transport of particulate matter. Note also, Williams, col. 4, lines 14-16, which states that Williams' system usable with "particulate material other than tobacco.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used the control scheme of Williams in the coal furnace feeding system of Seidl et al, for example, so that the height, and therefore the volume of any one or all of the intermediate chambers of Seidl (11, 21, and 24), the ducts (39, 41, 42) or ducts (67 and 68) can be maintained at a particular level by maintaining a rotational speed of the subsequent rotary vane feeder.

The suggestion/motivation would have been to, for example, maintain a particular volume of coal in the furnace kiln (11) of Seidl, or to maintain an even flow of materials throughout the system of Seidl by keeping a certain level and volume of material in the intermediate areas between rotary conveyors of Williams' system. See col. 4, lines 50-53 of Williams. Note also lines 53-55 of Williams, which mentions the use of the plug (42) in the duct (14) as a vapor barrier. Such a use might also be considered useful in a coal fired system such as Williams because backflow of gasses can cause explosions.

Therefore, it would have been obvious to obtain the invention as described in Claims 10 and 19-22.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 10 and 19-22 have been considered but are moot in view of the new ground(s) of rejection. Applicant's system appears to be described in the combination of Williams and Seidl. As discussed above, Williams' system of controlling a rotary vane feeder to maintain the height and volume in an intermediary container is taught by Williams, with ample motivation to use such a control scheme in the system of Seidl so as to maintain a particular height and volume of material in, for example, the kiln (11) or the cooler (24) or any of the other intermediary ducts between the rotary vane feeders. Therefore, Claims 10 and 19-22 are rejected.

Regarding the double patenting rejections, Applicant's arguments are persuasive. Therefore, the double patenting rejections have been rescinded.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sigmon discloses a rotary airlock valve, which describes in col. 1, lines 15-22, under what conditions such a device is used. Sharp discloses a system using screw feeders with an intermediary duct (12) between them. Sharp also discloses that rotary vane feeders may be used in place of screw feeders in col. 3, lines 4-10. Schora, Jr. et al is cited as disclosing a system with rotary valves (12, 14, 17 and 18) with intermediary container (16).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is



Art Unit: 3653

(703)308-3423. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald P. Walsh can be reached on (703)306-4173. The fax phone number for the organization where this application or proceeding is assigned is (703)306-4195.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1113.



Jeffrey A. Shapiro  
Examiner  
Art Unit 3653

November 8, 2003



DONALD P. WALSH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600